

Remarks

In this Amendment and Response to the Office Action mailed on October 29, 2004, Applicants have amended claims 1, 10 and 14. Claims 1, 3-10, 13-16, and 18-21 remain pending. Reexamination and reconsideration in view of these amendments is respectfully requested.

Claims Rejections Under 35 U.S.C. §103

The Examiner rejected claims 1, and 4 to 8 under 35 U.S.C. §103(a) as obvious over Angelos, U.S. Patent No. 5,881,763. These rejections are respectfully traversed.

Claim 1, as amended, recites in part a manifold for a water purification system having a boiling tank. The manifold includes a body having a water inlet port for connection to a water supply, a water exit port, a first fluid passage connecting the water inlet port to the water exit port, a drain inlet port for connection to the boiling tank, a drain outlet port, a second flow passage connecting the drain inlet port to the drain outlet port, and a third flow passage connecting the first flow passage with the second flow passage so that hot water from the boiling tank may be mixed with cooler water from the water inlet port within the second flow passage within the body. The second and third flow passages each define a longitudinal axis, and the two longitudinal axes are disposed at a shallow angle with respect to each other. Water flowing in the third flow passage from the water inlet port creates a venturi effect urging water within the second flow passage to flow toward the drain outlet port.

In Angelos, there is no teaching or suggestion that a particular arrangement of fluid passages would produce any sort of effect in one of the other passages. The passages of Angelos are shown as being perpendicular to each other and there is no teaching or suggestion that an alternative arrangement of the axis of the passages might be desirable. Without such teaching or suggestion, there can be no teaching of an arrangement of the second and third passages to create a venturi effect to urge water to move within the second passage. The only effect created by the arrangement of the passages as shown and taught in Angelos is a simple displacement of water.

Without such teaching or suggestion of an arrangement to produce a venturi effect, Applicants submit that claim 1 is not rendered obvious by the cited prior art, and that claim 1 is in condition for immediate allowance. Reexamination and reconsideration are respectfully requested.

Claims 4 to 8 depend from and further limit claim 1. For at least the reasons cited above with regard to claim 1, Applicants submit that claims 4 to 8 are not rendered obvious by the cited prior art and that claims 4 to 8 are in condition for immediate allowance. Reexamination and reconsideration are respectfully requested.

Pending claim 9 was not mentioned by the Examiner. Claim 9 also depends from and further limits claim 1. For at least the reasons cited above with regard to claim 1, Applicants submit that claim 9 is not rendered obvious by the cited prior art and that claim 9 is in condition for immediate allowance. Reexamination and reconsideration are respectfully requested.

Claims 10, 14 to 16 and 19 to 21 were rejected under 35 U.S.C. §103(a) as obvious over Angelos, in view of Chang, et al., U.S. Patent No. 6,303,006. These rejections are respectfully traversed.

Claim 10 as amended recites, in part, that the manifold include a body with a means for creating a venturi effect in the second flow passage to produce a suction in the second flow passage and on the drain inlet port. The means for creating the venturi includes a third flow passage connecting the first flow passage with the second flow passage. The second and third flow passages each define a longitudinal axis, and the longitudinal axes of the second and third flow passages are disposed at a shallow angle with respect to each other. The venturi effect is created by water flowing in the third flow passage from the water inlet port, the venturi effect urging water within the second flow passage to flow toward the drain outlet port.

As discussed above, Angelos does not teach or suggest any arrangement other than perpendicular for the axes of the flow passages. Chang is cited only for the creating a venturi effect. As noted in earlier communications with the Examiner, Chang does not mention the term “venturi” anywhere in the specification or claims of the patent. The Examiner cites a reference to a pressure reducing device 2 with a vacuum pump 21 as being the equivalent of the claimed structure and the venturi effect caused by flow of water within a condensation chamber of the disclosed structure. Applicants respectfully request a more detailed explanation of how the pump generating a low pressure condition within a vessel renders obvious a venturi effect caused by flow of water within two intersecting flow passages. While Applicants admit that both operate to create a lower pressure condition in a particular location, the operation and structure of the pump and condensation chamber of Chang and the operation and structure of the manifold

claimed in claim 10 are not equivalent. Further, there is no third flow passage intersecting the second flow passage.

The pressure reducing device of Chang applies a vacuum to a condensation chamber of a distillation vessel to reduce the boiling point of the liquid within the vessel. The pump of Chang is not used to urge flow within a flow passage and is disclosed as being turned off to avoid steam or liquid from being removed from the condensation chamber (see col. 3, lines 13 to 26). Thus, the pump of Chang provides a reduced pressure condition, as noted by the Examiner, but pressure condition does not actually urge flow in a flow passage, as recited in claim 10.

In fact, the combination of the pump of Chang with the perpendicular structure of the flow passages taught in Angelos teaches away from the structure of the manifold of claim 10. If a pump were included to urge water within the second flow passage to flow toward the drain outlet port, there would be no need for the third flow passage within the manifold.

Applicants submit that claim 10 is not rendered obvious by the cited prior art, and that claim 10 is in condition for immediate allowance. Reexamination and reconsideration are respectfully requested.

Claim 14, as amended, recites in part a water purification system for purifying water from a water supply including a boiling tank for boiling water from the water supply, a condenser connected to said boiling tank for receiving steam from said boiling tank and for condensing the steam to form distilled water and a distilled water tank connected to said condenser for collecting distilled water from said condenser. A manifold is positioned between the water supply and said boiling tank. The manifold includes a body having a water inlet port configured for connection to the water supply, a water exit port connected to the boiling tank, a first fluid passage connecting the water inlet port to the water exit port, a drain inlet port connected to the boiling tank, a drain outlet port, a second flow passage connecting the drain inlet port to the drain outlet port, and a third flow passage connecting the first flow passage with the second flow passage so that hot water from the boiling tank may be mixed with cooler water from the water inlet port within the second flow passage within the body. The second and third flow passages each define a longitudinal axis. The two longitudinal axes are disposed at a shallow angle with respect to each other, so that flow of water in the third passage from the water inlet port creates a venturi effect within the second flow passage urging water within the second passage to flow to the drain outlet port.

As discussed above, Angelos does not teach or suggest any arrangement other than perpendicular for the axes of the flow passages. Chang is cited only for the creating a venturi effect. As noted above, Chang does not mention the term “venturi” anywhere in the specification or claims of the patent. The Examiner cites a reference to a pressure reducing device 2 with a vacuum pump 21 as being the equivalent of the claimed structure and the venturi effect caused by flow of water within a condensation chamber of the disclosed structure. Applicants respectfully request a more detailed explanation of how the pump generating a low pressure condition within a vessel renders obvious a venturi effect caused by flow of water within two intersecting flow passages. While Applicants admit that both operate to create a lower pressure condition in a particular location, the operation and structure of the pump and condensation chamber of Chang and the operation and structure of the manifold claimed in claim 14 are not equivalent. Further, there is no third flow passage intersecting the second flow passage.

The pressure reducing device of Chang applies a vacuum to a condensation chamber of a distillation vessel to reduce the boiling point of the liquid within the vessel. The pump of Chang is not used to urge flow within a flow passage and is disclosed as being turned off to avoid steam or liquid from being removed from the condensation chamber (see col. 3, lines 13 to 26). Thus, the pump of Chang provides a reduced pressure condition, as noted by the Examiner, but pressure condition does not actually urge flow in a flow passage, as recited in claim 10.

In fact, the combination of the pump of Chang with the perpendicular structure of the flow passages taught in Angelos teaches away from the structure of the manifold of claim 10. If a pump were included to urge water within the second flow passage to flow toward the drain outlet port, there would be no need for the third flow passage within the manifold.

Applicants submit that claim 14 is not rendered obvious by the cited prior art and that claim 14 is in condition for immediate allowance. Reexamination and reconsideration are respectfully requested.

Claims 15, 16 and 19 to 21 depend from and further limit claim 14. For at least the reasons cited above with regard to claim 14, Applicants submit that claims 15, 16 and 19 to 21 are not rendered obvious by the cited prior art and that claims 15, 16 and 19 to 21 are in condition for immediate allowance. Reexamination and reconsideration are respectfully requested.

Allowable Subject Matter

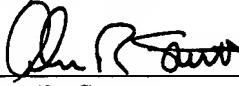
Applicants appreciate the Examiner's statements that the subject matter of claims 3, 13 and 18 are allowable but objected to as depending from a rejected base claim. However, in view of the discussion above, Applicants respectfully request withdrawal of the objections to claims 3, 13, and 18. Applicants reserve the right to amend claims 3, 13 and 18 at a future date if necessary to address the objections.

If the Examiner has any questions regarding this Amendment and Response, the Examiner is invited to contact Applicants' representative Alan Stewart at 612.371.5376.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

Date: Jan 18, 2005



Alan R. Stewart
Reg. No. 47,974

